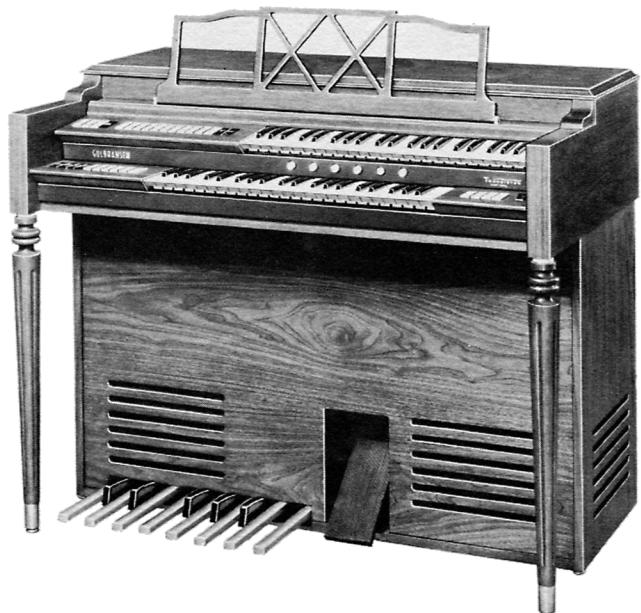
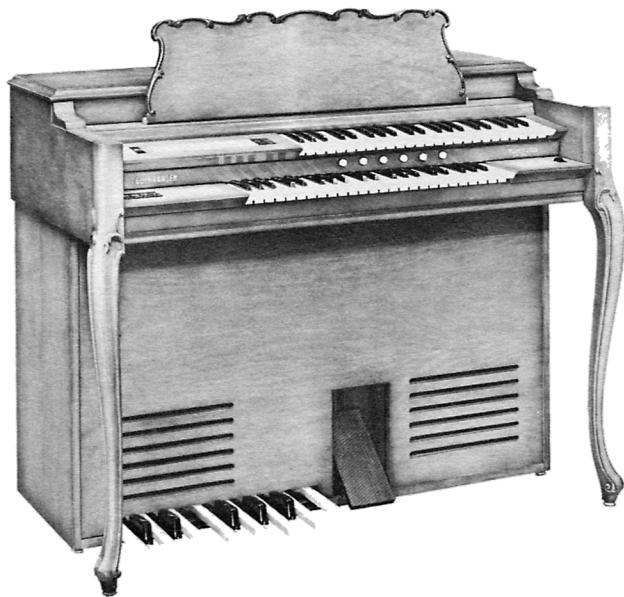


# GULBRANSEN



**MODEL H**  
and Model H Provincial  
**TRANSISTOR**  
**ORGAN**

*Owner's Manual*



## Introduction

In 1957 Gulbransen Company introduced the world's first transistor organ. This instrument included percussion, reverberation, and an adaptation of the Leslie Tremolo System. These features were all self-contained in the organ console and were standard equipment—a new concept in electronic organ design which was to revolutionize the entire electronic organ industry.

Your new Model H Gulbransen Organ has been manufactured following the same basic concepts that are a product of the Gulbransen Research Laboratories. Only the finest materials are used in keeping with the Gulbransen tradition of bringing you quality keyboard instruments.

The purpose of this manual is to acquaint you with this new organ, to provide the basic information you

will need in the operation of its controls, and to supply instructions pertinent to the small amount of special care it will require.

We sincerely urge that you read the manual all the way through before starting to play. You will want to read various sections again as your playing proficiency increases. The time you spend reading and re-reading it will be richly rewarded in added pleasure and enjoyment of the new Model H Gulbransen Transistor Organ.

A sample registration sheet is included in the manual. This contains suggested stop settings for various types of music. Instruction books and materials are also supplied in the Owners Kit which you received with the organ. We suggest that you read the general information contained which will further explain the operation of the organ.

# General Information

## Electrical Data

The organ operates on A.C. (alternating current) only. Never plug the organ into a D.C. (direct current) outlet. The standard home power supply of 60 cycle 117 volts is the correct power supply. The transistor tone generating system is very efficient and requires very little power. Any ordinary home power outlet is quite sufficient and no special wiring is required since a *maximum* of only 240 watts of power is consumed.

The OFF/ON switch is located to the right of the lower keyboard and has a pilot light indicating when the switch is "on". The organ is ready to play in about ten seconds after the switch is turned "on".

## Keyboards and Controls

### SOLO MANUAL

This is also known as the upper keyboard or "Swell" manual. Generally it is played with the right hand,

but many times it is played with both hands or just the left hand alone.

### ACCOMPANIMENT MANUAL

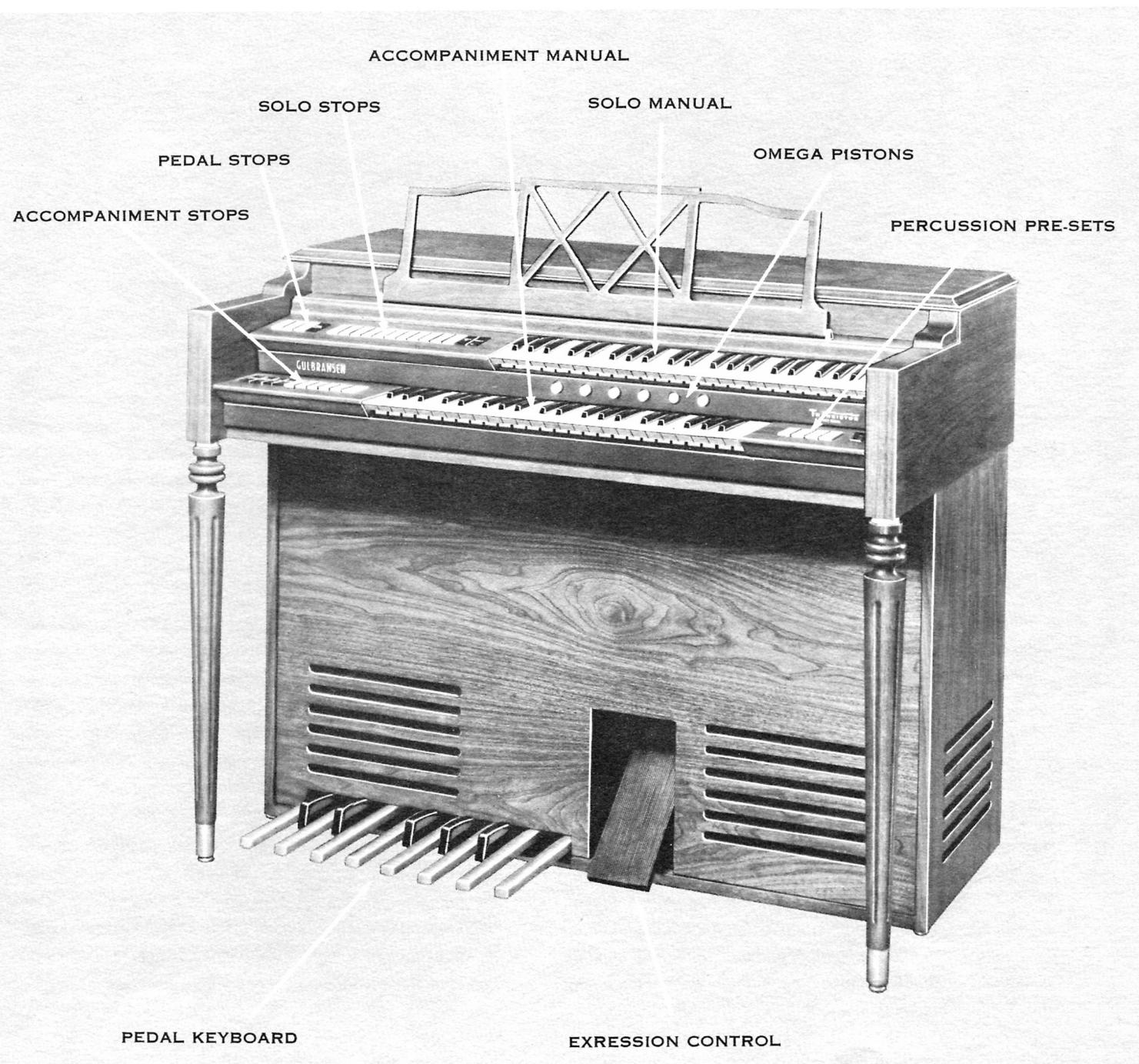
This is also known as the lower keyboard or "Great" manual. Although the left hand is generally used on this manual, there are many occasions when both hands are used or just the right hand alone.

### PEDAL KEYBOARD

The pedal keyboard, or pedal clavier as it is sometimes called, is usually played with the left foot.

### EXPRESSION CONTROL

This control is operated with the right foot and enables the organist to instantly adjust the volume or loudness of the organ to any desired level. A rather continual or frequent change in volume is the practice of most players to "shade" or "color" the music according to the requirements of the selection being played.



# Stop Tablets

## General Information

Originally, the word “stop” in pipe organ language referred to the control which “stopped” the wind to a specific group or rank of pipes. The stop marked 16’ would control a rank of pipes the largest of which would be 16’ in length. The 8’ stop referred to a rank in which the largest pipe would be 8’ in length. Because these footage markings have been the organists unit of pipe measure throughout the years, Gulbransen has maintained the system.

Some speaking stops such as Diapason, Oboe, Clarinet, and so forth do not have footage markings as they are made up of various combinations of the footage stops. For example, the Diapason stop is made up of the combination of Bourdon 16’, Tibia 8’, and Tibia 4’ stops. Usually, these tablets are referred to as “combinations.”

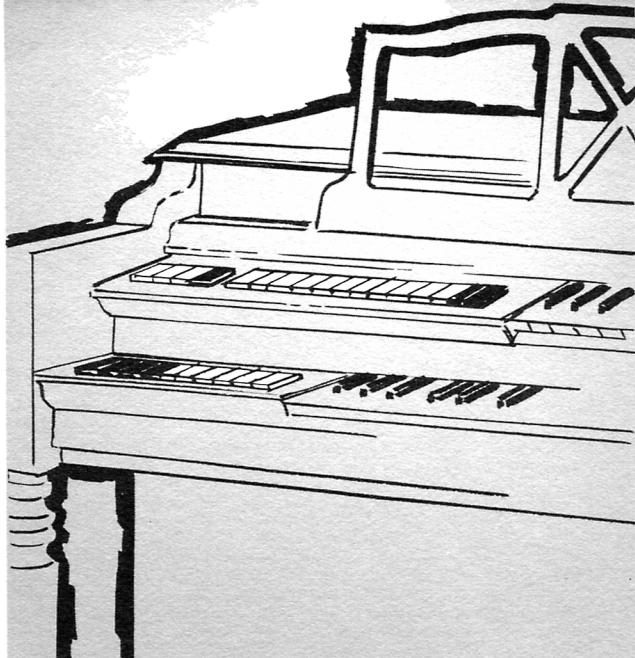
The black tablets such as Tremolo, Pedal Sustain, Timbre, and so forth, are called “non-speaking” stops which by themselves create no tone but effect the speaking stops. These are explained in detail in the section covering non-speaking stops.

## Using the Speaking Stops

There are no set rules regarding the registration of the organ. This is a matter of taste and depends upon the organist and the selection being played. The single exception to this is that you should never use the fractional stops,  $1\frac{1}{3}'$ ,  $1\frac{3}{5}'$ ,  $2\frac{2}{3}'$ ,  $5\frac{1}{3}'$ , by themselves. They should be used in conjunction with the even footed stops to change the tone color or to add “spice” to the registration being used.

Usually, the melody is played on the Solo Manual and a complimenting accompaniment is played on the lower manual. The pedal volume should be set so as to blend with the manual registration to add rhythm or a “beat.” You will notice that when there are no pedal stops “on” the pedal plays at very soft volume. At least one speaking stop must be “on” for each of the manuals to create a tone.

We urge you to experiment with the stop tablets to familiarize yourself with your new Gulbransen Organ and to find registrations that are pleasing to your ear. We have included a few sample registrations in this manual to assist you in addition to the music books included in the Owners Kit.



## Non-Speaking Stops

### General Information

The black tablets on your Model H Gulbransen Organ are referred to as *non-speaking tablets* which by themselves create no tone. These tablets effect the speaking voices of the organ by adding brilliance, tremolo, volume, and so forth.

### The Tremolo

The tonal beauty of the Gulbransen spinet organ is, in large measure, the result of the "acoustical treatment" applied by the built-in *Leslie Tremolo System* acting in conjunction with a top grade audio amplifier, a high-quality loudspeaker, and a scientifically designed loudspeaker enclosure.

The *Tremolo* is the "wavering" effect which is frequently heard in the violin and other stringed instruments. It is produced when the rotary channel through which the sound must pass is rotated at the rate of about 400 revolutions per minute and directed out of the openings around the organ console.

Most organs achieve tremolo and vibrato effects by

rapid distortion of pitch; that is by varying the pitch slightly sharp and flat to get a wavering sound. The Gulbransen Organ is unique in that it maintains true pitch at all times.

The *Tremolo* is controlled by means of a stop tablet located at the right of the Solo Manual stop tablets. Since the organ is generally played with the *Tremolo* "on", the controlling tablet works exactly in reverse of the other stop tablets; it is "on" when in the flat or horizontal position.

### Pedal Sustain

The *Pedal Sustain* is provided for the purpose of prolonging the time a pedal note sounds after the pedal key is released. When the *Pedal Sustain* is "on" the effect of the plucked stringed bass is achieved. The sustained bass is frequently desirable for slower types of music because it maintains continuity while the foot is moved from one pedal key to another.

When the *Pedal Sustain* is "off" the effect is similar to the bass horn or tuba. This setting is well suited for faster types of music or when a "beat" is desired.

## Non-Speaking Stops

### The Timbre Controls

Located at the left of the Accompaniment Manual stop tablets are two tablets designated as *Timbre Mellow* and *Timbre Bright*. These control the voice of the organ and its distinctive character of tone.

With only the *Timbre Mellow* being used with the registration, the lower tones of the organ are highlighted. Using only the *Timbre Bright* will accentuate the higher tones of the organ. Obviously, by using both of these tablets at the same time you will increase the total volume of the organ.

There are no set rules regarding the use of the Timbre Controls; it is a matter of personal taste, room acoustics, and the like. Frequently, the percussion effects are enhanced by using the *Timbre Bright*.

In the section dealing with registration there are examples of how to utilize the Timbre Controls to their best advantage.

### Percussion and Reverberation

*Omega*, the last letter of the Greek alphabet, is the name we have applied to the large family of reverber-

### The Balancer Controls

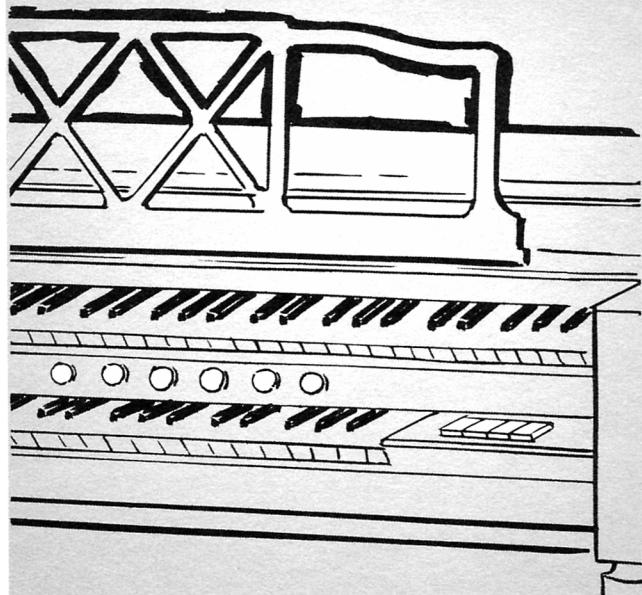
The *Solo ff* tablet located with the Solo Manual stops and the *Accomp mf* and *Accomp ff* tablets located with the Accompaniment Manual stops govern the comparative volume of the two keyboards. When both *ff* tablets are depressed the manuals play at full volume.

With the aid of the *Balancer Control* tablets it is easy to properly balance the volume of one manual selected for the melody against the volume of the manual selected to play the accompaniment. This enormously increases the flexibility and versatility of the organ in that the stops may be selected on the basis of their tonal color rather than on the basis of volume.

For example, should you desire only two soft stops on the Solo Manual for the melody and wish to have three or four stops in use for the accompaniment, merely depress the *Solo ff* tablet and refrain from using the other Balancer Controls. This arrangement will allow the Solo Manual to dominate.

## Omega

ation and percussion effects available on the Gulbransen Organ. The Omega is controlled by a series of six pistons located in the center of the organ between the manual keyboards.



The percussion section of a band or orchestra includes instruments on which the tone is created by plucking or striking. Many of the voices of these instruments may be simulated on your Gulbransen Organ including piano, chimes, harp, music box, marimba, orchestra bells, just to name a few.

The *Omega* effects apply only to the Solo Manual keyboard. For proper results you should use a quick or staccato touch to obtain the percussion effects. Some of these effects are described in the music books you received with your organ.

The first piston on the left hand side described as *Omega Off* on the decal set directly above it has the effect of cancelling the other piston effects which might be on.

The second and third pistons from the left are *Reverberation Short* and *Reverberation Long*. Reverberation is an acoustical effect which permits the achievement of cathedral-like tonal quality even in the limited acoustics of the smallest living room. It is invaluable in playing church organ music or theatre organ music.

The fourth and fifth pistons from the left, *Percussion Short* and *Percussion Long*, govern the tonal decay characteristics. Since the various percussion instruments have different degrees of decay time, it is necessary to have these specific settings for their control.

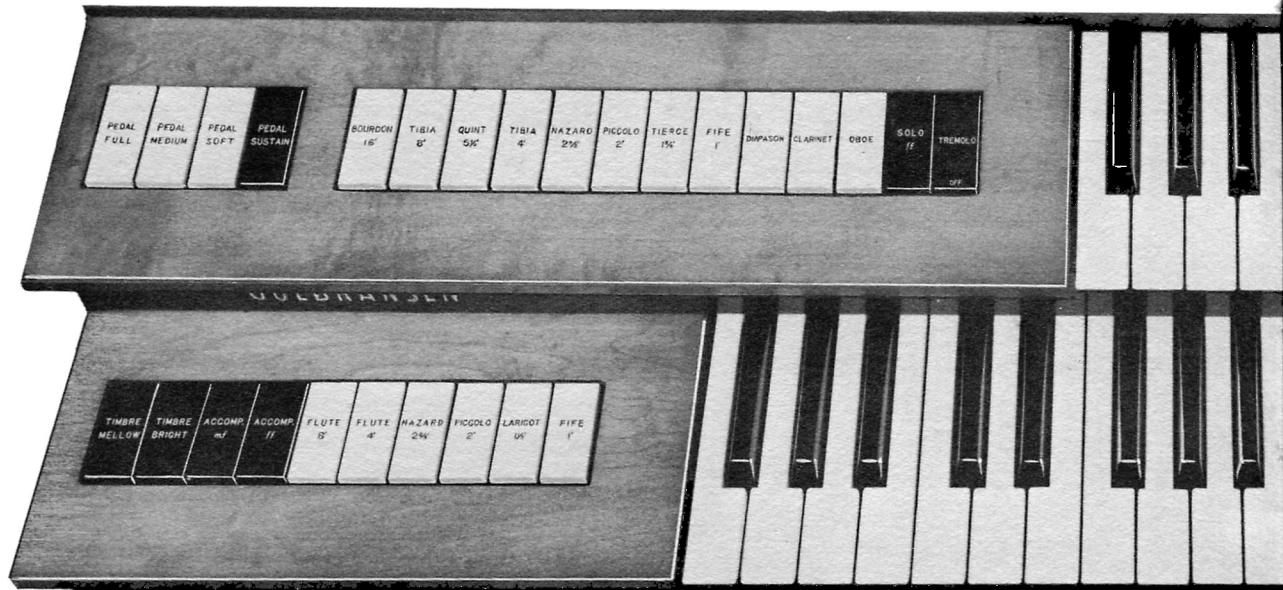
## Chimes and the Chimes Pre-Set Piston

A complete 44-note Solo Manual of mellow electronic chimes is available at instant finger tip control with the *Chimes Pre-Set Piston*. This piston automatically cancels all Solo Manual stops and changes the Timbre Control to "bright". THE BEST CHIMES EFFECT IS WITH TREMOLO "OFF". The Tremolo is left "on" only when the effect of bells rather than chimes is desired. To cancel the *Chimes* all that is necessary is to depress any other piston and the previously arranged Solo Manual stops are once again immediately in effect.

*Damped Chimes* (Chimes with short decay) can be obtained simply by depressing the *Chimes Piston* and any other piston except Percussion Long and the decay characteristics will be determined by the extra piston depressed.

## Pre-Set Percussion Tablets

Located to the right of the Accompaniment Manual are four *Pre-Set Percussion* tablets. These operate in the same way as the Chimes Pre-Set Piston in that they cancel all Solo Manual stop tablets and the Tremolo. Unlike the Chime, Tremolo can not be applied to these effects.

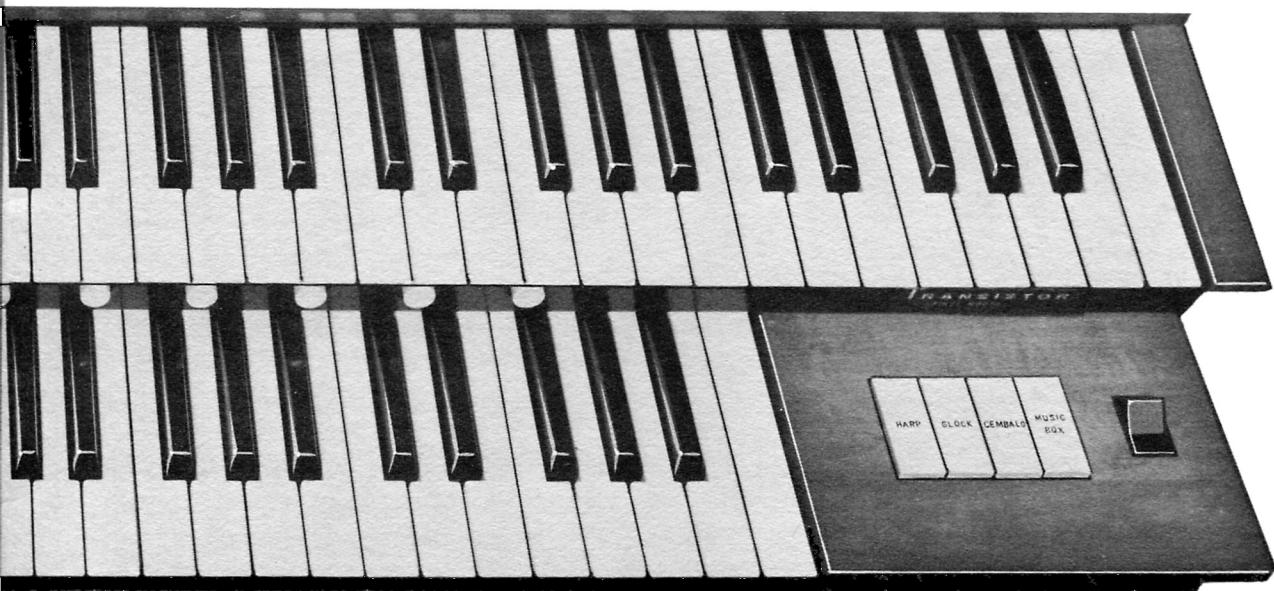


## Registration

Organ registration is merely the selection of various voices of an organ to produce a desired effect or sound. Registration is equally as important as how well you play; careful selection of stop tablets will add a professional "touch" even while you are learning to play.

There are no set rules regarding registration; it is a

matter of personal taste. We urge that you experiment with the stop tablets to find combinations which are pleasing to you. To assist you, we have included a few suggested registrations in this section and call to your attention the music books you received with your organ. These are just a few combinations we suggest while you are getting acquainted with your Model H Gulbransen Transistor Organ.



Desired Effect	Solo Manual	Accompaniment Manual	Pedal	Timbre	Omega Pistons
THEATRE ORGAN	<i>Diapason</i> <i>Piccolo 2'</i> <i>Fife 1'</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Piccolo 2'</i> <i>Accomp ff</i>	<i>Full</i>	<i>Normal</i>	<i>Reverberation Long</i>
CHURCH ORGAN	<i>Diapason</i> <i>Solo ff</i> <i>Tremolo Off</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Accomp ff</i>	<i>Medium Sustain</i>	<i>Normal</i>	<i>Reverberation Long</i>
CHURCH ORGAN	<i>Diapason</i> <i>Piccolo 2'</i> <i>Solo ff</i> <i>Tremolo Off</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Piccolo 2'</i> <i>Accomp mf</i>	<i>Medium Sustain</i>	<i>Mellow</i>	<i>Reverberation Long</i>
POPULAR (Lively)	<i>Bourdon 16'</i> <i>Tibia 4'</i> <i>Tierce 1-3/5'</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Accomp ff</i>	<i>Medium</i>	<i>Bright</i>	
POPULAR (Mellow)	<i>Bourdon 16'</i> <i>Tibia 8'</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Piccolo 2'</i>	<i>Soft Sustain</i>	<i>Normal</i>	
POPULAR (Moderate)	<i>Bourdon 16'</i> <i>Tibia 8'</i> <i>Piccolo 2'</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Larigot 1-1/3'</i> <i>Accomp mf</i>	<i>Medium</i>	<i>Normal</i>	
POPULAR (Moderate)	<i>Bourdon 16'</i> <i>Clarinet</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Nazard 2-2/3'</i> <i>Accomp mf</i>	<i>Medium</i>	<i>Mellow</i>	
POPULAR (Moderate)	<i>Bourdon 16'</i> <i>Piccolo 2'</i> <i>Solo ff</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Accomp mf</i>	<i>Medium Sustain</i>	<i>Normal</i>	
NOVELTY (Up Tempo)*	<i>Bourdon 16'</i> <i>Quint 5-1/3'</i> <i>Fife 1'</i> <i>Solo ff</i> <i>Tremolo Off</i>	<i>Flute 8'</i> <i>Flute 4'</i> <i>Larigot 1-1/3'</i> <i>Accomp mf</i>	<i>Full</i>	<i>Normal</i>	

*Reverberation Long or Short Depending  
On Room Acoustics and Personal Taste.*

*\*(For best effect, play a single note melody on Solo Manual)*

# The Care of Your Gulbransen Organ

## FINISH OF THE CONSOLE AND BENCH

The finest woods available, both solids and veneers, are used in the organ console and bench. They, therefore, require the same type of treatment and care given any high quality furniture. The finish is hand rubbed. For dusting we suggest a clean soft cloth. To remove fingerprints or film, the cloth should be slightly dampened with water to which a little very mild soap has been added.

## KEYS AND STOP TABLETS

These are made of durable plastic which should not discolor. When necessary they should be cleaned with a slightly dampened cloth. Do not use oils, cleaning fluids, or chemicals of any kind.

## PLACEMENT OF THE ORGAN

The organ has a completely finished back and may be placed in any room position desired. Care should be taken, however, to avoid direct sunlight or close proximity to heat outlets since they can damage the finish just as in the case of fine furniture.

In moving the organ about, please note there are convenient hand slots provided in the back. Although most of the weight is in the back of the organ console, the legs in front should be supported when moving the organ. This is especially true on carpeted floors.

## TUNING THE ORGAN

The Gulbransen Transistor Organ Model H is an all electronic organ employing a Transistor Oscillator tone generating system. The tone generator employs 84 transistors, one for each of the 84 available pitches. The Transistor Oscillator circuit is a very stable one and your organ should not require tuning.

## AMPLIFIER AND SPEAKER SYSTEM

The tones generated by the tone generator are amplified by a high power amplifier employing five tubes. This amplifier is mounted on the keybed behind the playing keys. The output from the amplifier is converted into sound by a loud speaker contained in a specially designed loud speaker enclosure at the right end of the console.

## CONTROL OF MAXIMUM VOLUME

Where the organ is to be used in a small room, it may be preferable to limit the maximum volume to a somewhat lower level to utilize the full range of the expression pedal and yet never make the organ excessively loud for its environment. A Potentiometer marked "Max Vol" is adjustable from the top of the amplifier chassis and can be set to limit the maximum volume. This is a very simple adjustment and one which your dealer will be glad to make for you.

**CAUTION:** Never turn the volume control clockwise so far as to cause distortion when playing full chords with the expression pedal all the way open as continuous operation in an overloaded condition can cause damage to the loud speaker.

## FREQUENCY RESPONSE

In the Gulbransen organ the tone generator, the amplifier, and the loud speaker system all cooperate to produce music of a highly distinctive character. In order to obtain this specialized performance the frequency response and other amplifier characteristics are intentionally different from those of systems intended for playing phonograph records, tapes, and similar types of entertainment material and for these reasons the amplifier and speaker system of the organ cannot be used for these purposes.

## OILING INSTRUCTIONS

The tremolo motor should be oiled about twice a year with a good grade of sewing machine oil. Remove the back of the organ and put three drops of oil into the

oil tube attached to the motor. Put another three drops on the felt pad surrounding the upper motor bearing. Do not over oil. *This is the only oiling the organ requires.* THIS IS VERY IMPORTANT.

#### RATTLES, BUZZES, AND VIBRATIONS

When playing the organ at considerable volume a great deal of acoustical power is produced, particularly when playing pedal notes. Because of the sustained nature of organ tones conditions may be such that sympathetic vibrations are set up.

This can result in rattles or buzzes which are very annoying. Sometimes these rattles are due to a part in the organ case vibrating, but very frequently they are due to something apart from the organ. Especially likely to be "guilty" are doors, windows, venetian blinds and light fixtures.

As for the organ itself, the front panel can sometimes vibrate if it is not screwed in properly and tightly. It is very important that this front panel be tight since the operation of the loud speaker enclosure demands an almost airtight condition. Be careful, too, to always replace any hardware that is loosened.

#### EXTERNAL OR ADDITIONAL SPEAKER CABINETS

The Model H Gulbransen Organ is so designed that in normal home usage the volume is sufficient. When the organ is used in a larger room or where greater power or greater tonal dispersion is required, it is so designed that it may be used in conjunction with one or more Leslie Speaker Cabinets.

Leslie Organ Speaker Cabinets are manufactured by Electro-Music, 313 South Fair Oaks, Pasadena 1, California, and may be obtained from your local Gulbransen organ dealer.

Leslie cabinets have a more elaborate tremolo system than that employed in the organ. Two rotating horns produce an enormously complex and satisfying

#### STANDING WAVES

Because of the long wave length of the low pitch notes, these tones are reflected from the walls and ceiling in such a way that certain tones will be loud at some parts of the room and soft at others. This is a natural phenomenon that takes place regardless of how tones are produced. If a given note "cancels out" at a point where the organist's ear happens to be, it can be very annoying. The only cure is to move the organ a few feet so that the "standing wave" pattern is altered.

#### SHOULD A KEY FAIL TO PLAY

If any individual key fails to operate it is probably because a piece of dust or dirt has lodged on the bus bar. This is easily cleared by simply holding down the key in question while operating the stop tablet on and off a number of times. This causes a friction or rubbing action that will clean the contact. In a new organ an occasional contact may be "dirty" due to the deposit on the bus bar of a small quantity of rosin as a result of the soldering process used in assembly. These contacts are easily cleaned as per above and once cleaned will not give trouble.

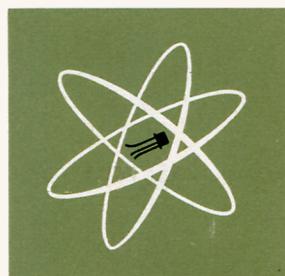
## Accessories

tone quality that is highly desirable even where high power is required. Also, many interesting effects are possible by using the Leslie Speaker Cabinet and the built-in speaker in combination. For example, they can be used with tremolo on one speaker and not on the other, or very quick changes can be made from the "tremolo on" speaker to the "tremolo off" speaker.

Complete parts and instructions for connecting the Leslie Model 45 Organ speaker are supplied with each speaker cabinet and the installation is a very simple matter that can be done by your dealer in just a few minutes. Ask your dealer to demonstrate the Leslie Speaker used in conjunction with the Gulbransen Transistor Organ.

*The  
Wonderful  
World of  
New Sound*

## **GULBRANSEN TRANSISTOR ORGAN**



**GULBRANSEN COMPANY**  
2050 North Ruby Street  
Melrose Park, Illinois